



AN AYURVEDIC CONCEPTUAL STUDY OF SPIDER POISONING

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ABSTRACT

Āyurveda treat all conditions of diseases by interrupting the disease pathology from its root. The major concept of *ayurveda* revolves around the tridosa theory. Doṣa holds the functional and pathological units of all living beings. Even in cases due to external causes the predominance of *doṣa* are counted for diagnosis as well as treatment. As per *Āyurveda*, Poisoning conditions are considered under the diseases caused by external causes. Agad tantra one of the eight branches of *āyurveda* covers various types of envenomation. The poisoning due to contact or bite by spider is considered as with bad prognosis due to its extent of severity and annual phenomena. Most of the times, signs and symptoms of spider poisoning has got a better resemblance with Herpes zoster and often mistreated resulting in recurrence of disease in future. *Āyurveda* has got a far better advancement in the field of toxicology particularly in spider poisoning many research works has also been conducted. The current paper is a humble attempt to share the *Āyurvedic* knowledge of concept of spider poisoning and its diagnostic ways to identify the foresaid condition.

INTRODUCTION:

Toxicity in present era has become a general problem as world is filled with toxins rather than living beings. People are exposed to a great variety of natural and manmade substances. Under certain conditions such exposures cause adverse health effects ranging in severity from death to subtle biological changes.

Agadatantra, one of the eight main branches of *Ayurveda* deals with animate and inanimate poisons and their remedial measures. It deals exclusively every aspects of poisoning right from the mythological origin of *viṣa* to the scientific management of various toxicities. The antiquity of this branch relates to *Vedic* period and it offers boundless area of knowledge and opportunities for research to the scholars of toxicology. Contemporary relevance of *Agadatantra* is increasingly mounting up owing to the chaotic conditions of modern life. It's a general belief that envenomation like spider poisoning are very less compared to other types. But in certain geographical areas, these cases are a major threat to people. According to general statistical information at outpatient level on various types of poisoning conditions, nearly 50% diagnosed cases of spider poisoning are treated every month (Rajitha et al 2008) in vishachikitsa OPD of kerala.

Acharya *Suśruta* has named spiders as “Luta” and considers *Lūtāviṣa* as very dangerous due to the difficulty in diagnosis and treatment. According to *Ayurveda*, *Lūtā* comes under *jaṅgama viṣa prakarana* (animal poisons). As per the mythological descriptions the origin of *Lūtā* has been dealt in various aspects as King Viswamithra went to the hermitage of the holy saint *Vasiṣṭha* and by his action aroused the wrath of the holy sage. Drops of sweat on the forehead of *Vasiṣṭha*, angered by Viswamithra, which fell on the cut grass, transformed themselves in to *Lūtā* (spider).

Considering the modern purview, a **spider bite**, also known as **arachnidism**, is an injury resulting from the bite of a spider. Most bites result in mild symptoms around the area of the bite rarely producing a necrotic skin wound or severe pain. Bites from the widow spiders involve neurotoxic venom which produces a condition known as latrodectism. Symptoms may include: pain which may be at the bite site or involve the chest and abdomen, sweating, muscle cramps and vomiting among others. Bites from the recluse spiders cause the condition loxoscelism, in which local necrosis of the surrounding skin and widespread breakdown of red blood cells may occur. Headaches, vomiting and a mild fever may also occur. Other spiders that can cause significant bites include: the Australian funnel web spiders, the South American wandering spider, and the hobo spider.

Nowadays it is practically impossible to identify *Lūtā* (spider poisoning) with respect to the peculiar signs, which are mentioned by Acharyas. Vagbhata, in *Aṣṭāṅghrdaya* proclaims that there is only a single type of *Lūtā* and it is poisonous by all means. He classifies them according to the predominance of *doṣas* as well as the potency of the poison. Often a patient turns up before the physician giving a history of *Lūtā damśa* (bite of spider). In such cases individual might have hardly seen the bitten creatures and again one cannot ascertain the *doṣa* predominance of the bitten *Lūtā*. But in most of the cases of *Lutavisa*, symptoms will be appeared after a minimum 72 hours of contact. In clinical practice also, justifications of this can be seen. Apart from *damsa*, all other types of contact of spider including urine, semen, saliva etc of spider, when fall on the body can results in the condition of spider poisoning. In modern science, they consider spider poisoning only through bite. But when we are going to a deeper breath, many studies

has shown that even the touch of body hairs of spiders can also be turned out to get poisonous symptoms. Going through the clinical relevance, these types of cases when untreated or mistreated can even result in skin disorders even going to annual phenomena (recurrent symptoms on every year).

The term for systemic effects resulting from spider bite is 'araneism', or 'arachnidism'. In addition, there are terms to describe the effects of specific spiders such as 'latrodectism' (red back spider) and 'loxoscelism' (recluse spider). The two main types of spider venom are:

- neurotoxic (affects the nervous system) – released by *Latrodectus* species (red back spider, widow spider) and *Atrax* species (funnelweb spider)
- Cytotoxic or necrotic (causing damage to tissue) – released by *Loxosceles* species (recluse spider).

Signs and symptoms

Almost all spiders are venomous, but not all spider bites result in the injection of venom. Pain from non-venomous, so-called "dry bites" typically lasts for 5 to 60 minutes while pain from envenomation spider bites may last for longer than 24 hours. Signs of a bacterial infection due to a spider bite occur infrequently (0.9%). A Redback spider bite causes significant pain lasting more than 24 hours. Activation of the sympathetic nervous system can lead to sweating, high blood pressure and gooseflesh. Most recluse spider bites are minor with little or no necrosis. However, a small number of bites produce necrotic skin lesions. First pain and tenderness at the site begin. The redness changes over 2 to 3 days to a bluish sinking patch of dead skin- the hallmark of necrosis. The wound heals slowly over months completely rarely, widespread symptoms, including profound anemia. Rarely the bite may also produce the systemic condition with occasional fatalities.

Vāgbhata pictures the general symptoms very clearly. They are reddish, blackish or pale soft indurated areas resembling *Dadrū Kuṣṭa*, the middle portion of which is blackish or pale and having the boundaries clearly demarcated. Severe pain, edema, burning sensation, fever, sudden decaying tendency, weeping, cracking etc can be seen associated. Spreading of lesions to other parts of the body is possible wherever the oozing fluid gets a contact.

Acharya Caraka explains *lutavisa* in a way different manner, in which the center of place of bite will be black or blackish brown in colour, surrounded by net work, if the area appears as if burnt, if it gets suppurated quickly, if it is associated with slough and edema, and if the patient suffers from fever, then it is to be diagnosed as case of bite by a spider of *dūṣi-viṣa* (Slow poisoning) type. Symptoms of bite by the spiders in general are edema, *piḍaka* of white, black, red or yellow colour, terminal dyspnoea, burning sensation, hiccup and stiffness of the head.

Dermatological Manifestations of *LūtāViṣa*

Dermatological lesions which are vesiculo-bullous in nature, mimicking *Lūtāviṣa* in their appearance can be diagnosed and treated successfully as per the treatment principles of *Lūtāviṣa*. The necrotic factors, which are responsible for specific dermatological lesions, may be showing some similarities in *Lūtāviṣa* and those diseases. So identical lesions are found in both and identical treatment principles can be applied in both. If the clinical picture of *Lūtāviṣa* is carefully studied, one can reach in conclusion that dermatological manifestations appear to be a marked feature along with other systemic manifestations.

Skin eruptions are one of the surest diagnostic measures of *Lūtāviṣa*. They are multi sized and multi shaped. These eruptions usually mimics blisters filled with pus, or watery fluid spreading from the site of the bite usually helps the physician to confirm a case of *Lūtāviṣa*. It involves large areas of body. One of the salient features of skin lesion of *Lūtāviṣa* is that the lesions are not sharply confined to the site of bite only. It possess a spreading nature, there develops circular patches around the region of *Damśa*. Often it follows the pattern of dadru kuṣṭha. There is no definite colour to the area affected; yet it may be whitish, blackish, yellowish, reddish or brownish. If one observes this range of colours through the eyes of Doṣa, an assumption can be made as follows. *Lūtā* of *Kaphaja* nature cause for whitish colour, *Pittaja* either yellowish or red, and *Vātaja Lūtā* bring about brownish or blackish colour to the site of the bite.

Lesions are often slightly raised and soft, central zone of the site will be blackish or brownish and the boundaries lined. *Damśa* may undergo immediate *pāka* and there will be enough exudation. Necrosis and putrefaction also follows. Exudatory fluid of *Lūtā damśa* is also highly venomous and capable of producing ulcers in the intact skin if get contacted. Edema is also an important manifestation met within *Lūtāviṣa*. Edema can also be explained on aspect of *doṣa* concept, as *pittaja Lūtā* will be having size similar to *drakshaphalopama*, whereas that of *kaphaja Lūtā* will be of *paruṣakaphalopama*. It appears reddish or brownish and soft in consistency. Itching is another feature encountered in skin lesion. This may be an allergic response by the body towards antigen of spider venom.

CONCLUSION:

Lūtāviṣa is most dangerous and very difficult to diagnose and treat by a physician of dull intelligence. When there is difficulty in determining whether the bite is venomous or non venomous, one must employ anti-venomous measures, which are not contradictory to the usual medicines. Application of the *agadas* are useful only in the cases of poisoning and so, if the *Agada* is applied in a non poisoned person it may lead to trouble. Hence, the diagnosis of the presence of the poison should be established by all means.

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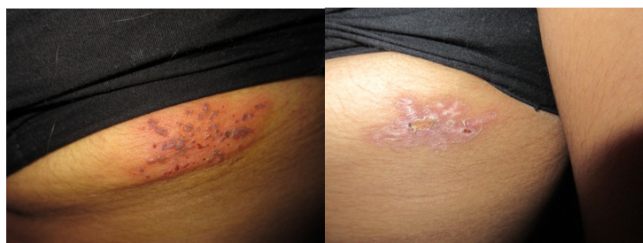


Fig 1: Ayurvedic treatment results of *Lūta viṣa*



Fig 2: Signs & symptoms of *Lūta viṣa*

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